The Medical Times and Register.

VOL. XXXVIII No. 3. PHILADELPHIA AND BOSTON, MARCH, 1900. WHOLE No. 991

FRANK S. PARSONS, M. D., - Editor. DORCHESTER, BOSTON, MASS.

JOSEPH R. CLAUSEN, A.M., M.D., Manager. 1409 ARCH STREET, PHILADELPHIA, PA.

.....EDITORIAL STAFF.....

T H. MANLEY, M. D., New York, N. Y. | J. A. TENNEY, M. D., Boston, Mass.
J. J. MORRISSEY, A. M., M. D., New York, N. Y. | EDWARD A. TRACY, M. D., Boston, Mas
LOUIS FISCHER, M. D., New York, N. Y. | H. B. SHEFFIELD, M. D., New York, N. Y
LEOPOLD R. W. HAAS, M. D., New York, N. Y.

ORIGINAL

ADDRESS ON A SURGEON'S VIEW OF THE VALUE OF DRAWING TO HIS PROFESSION.

BY ALBERT H. TUTTLE, S. B., M. D., CAMBRIDGE.

Presented before the State Normal Art School, Boston, Mass,

LADIES AND GENTLEMEN.—When asked by your highly respected Professor Bartlett to address you on the subject of "A Surgeon's View of the Value of Drawing to His Profession," I answered affirmatively with alacrity and vivacity that would hardly be expected from a plethoric temperament. Oh yes, a knowledge of drawing is of great value, not only to the surgeon, whose branch of the profession is nearest to and in fact almost a mathematical science and art, but also to the physician in general. I think I may be able to give a few remarks which may serve to elucidate the points of interest on this subject.

Later, before preparing this paper I visited and was shown over these beautiful apartments. I saw students of all classes, some working with a pencil, some with charcoal, and others in oil; some were studying from plaster models, some were painting from still life, and others, evidently of the higher grade, were working upon that figure, so ideally perfect that God chose it for His only begotten Son and artists of all ages have sought in it the theme for their master work.

I went home and in my quiet den, before a blazing hearth, pulled myself together and tried to formulate the ideas on this subject which twenty years of student life and practice of medicine had accumulated in chaotic and almost useless confusion, when I realized for the first time the task I had undertaken.

The visions of your studios were fresh in my memory. The image of a young male model came rapidly back to me. I saw his fine physique, the pectoral muscles standing out in bold relief; his exquisite limbs, with muscular development and tone that told a story of its own. I was informed that he was a professional model, yet I

knew that his life had other duties than simply poising before a class. Whatever may have been his vocation that muscular development and tone denoted work or exercise.

Another model rose quickly onto the imaginative pedestal of the last. His long hair (a product of the wig maker's art) was bleached and white, and such that characterize the advance to marked senility, and point out the fact, as true as any sun dial, the sunset of life has come, and that the interval which separates the body from the grave is very brief. I viewed his face which with gross incongruity shows neither care nor sorrow; no line or wrinkle marks the change of time.

His limbs, although not developed like the first, still show the elements of younger manhood, and though they tell a tale of more indolent habits, with a greater love for ease, they yet reduce the senile evidence of his hair to absurdity and show unmistakably the falseness of his makeup. It then seemed as though I had found something common between us, but being of different minds and training, we would not view the same subject alike, at the same time it would be pleasing to note how far our spectacles were interchangeable.

In order to emphasize certain facts in regard to the value of drawing in general let me ask you to recall the first puerile representations you made of the human figure, pictures we have all made during our youngest days of childhood. A ring for a head, with wedge-shaped body, skeleton arms, formed of a single line, O's for eyes, etc. Compare this with your work of to-day and see wherein it differs. Your first production was not a work of art, but a crude representation that might have been produced from a word picture with the same amount of accuracy. But how about your work of to-day? Who is there among you could produce a form as complex as the human kind, from any description and expect it to be anything but a fabulation full of imagination, and devoid of specific truth?

I might even go farther: Take a strange and complex form, give you a careful description of it, and allow you an hour for careful inspection but not allow you to make any sketch of it as long as the subject is before you. Several of you can reproduce it from memory in detail and compare your results with each other, then with the model. How similar will they be.

Dure had the reputation that he could, after five minutes' inspection of a patron, produce from memory a finished portrait. After one careful inspection through a microscope, Alexander Agassiz has drawn a fish in complete detail. These are exceptional cases, both artists of vast experience and special adaptability, with a brain full of comparative images, the slight modification of some one becoming the one in question.

How different would the result be if during the hour's inspection you are allowed to make repeated rough sketches and fix by this method of education, a more accurate knowledge of the subject, upon the central nervous system.

If we have to deal with an abstract subject word pictures are our principal means of representation, or of imparting our knowledge to others, and hence it is that physicians from time memorial have been so often completely tangled up in their description of a case of illness, made the subject of jest by the quick-witted, and been expected by the simpler people to

make a statement of their condition, which if framed in the best possible language, could convey nothing that is absolutely tangible to the mind of the patient.

In surgery the abstract part of medicine is mostly removed, and as your model stood before you in the concrete and living flesh, that you might study each light and shade, outline and color, and become familiar with the various changes of form, development, attitude or movement, that marks the healthy subject and creates the divine characters of man, so he is presented to us, but for a study of those changes that denote deviations from the normal line or indicate the inroads of disease. The knowledge of form which you have gained from repeated sketching, many of my most distinguished confreres have acquired in a similar way, but they have not limited their application of this method of study to simple outline and form, they have extended it to sections and dissection, and even to microscopical specimens.

In dealing with concrete things the mental images are of the nature of a pictorial reproduction, the completeness and accuracy of which depends on our familiarity with their details.

There is no better way to prove your knowledge of certain subjects than by making several sketches from memory, giving architectural details and then comparing them with the thing itself. Your infantile picture represented the principal facts that made up your knowledge of the human body at that time. As you advanced in years a more comprehensive knowledge of the subject would be shown in a greater amount of detail to the drawing.

There is no better way of attaining a comprehensive knowledge of certain subjects than by making repeated sketches from different views. After simple observation fails to reveal the elements of a certain construction they may often be made clear by outlining the details, one at a time, in black and white. An example of this was once shown in the work of Prof. Niles, who at the time was studying certain conformations in the Swiss Alps. He became very much perplexed to understand certain phenomena. In his dilemma he took a pencil and paper and began to sketch the conditions before him, when suddenly his ideas cleared and he had a full grasp of the situation. Each line he drew represented a detail that the mind could not separate otherwise from the whole, and when a sufficient number of these facts were obtained it was easy enough to comprehend the thing *in toto*.

When after repeatedly drawing a subject you can reproduce a drawing accurately from memory, you have a clear mental picture of its detail.

In surgery it is often necessary to have just such an intimate and clear understanding of the anatomy. The simple knowledge of muscles and their attachments, membranes, vessels and nerves is insufficient. A knowledge of form is often essential and unless one studies this minutely, like an artist, making sketches of the normal and comparing the changes from disease, it will often be impossible to restore the damaged parts so as to simulate the form and appearances of the natural.

In my own study of certain plastic operations I had a chance to illustrate this. After acquiring an adequate knowledge of the anatomy and becoming perfectly familiar with the technique of the operation I applied my knowledge to several cases. The

operation demanded for satisfactory results that certain things should be attained, and I attained them, giving comfort to my patients, but as I now reflect upon the appearances of the parts I cannot help thinking of an industrious Irishman Dr. Holmes used to tell about, who brought a couple of bricks home with him every time he returned from work until he had a pile large enough to construct a house. It was a success; served to keep out the wet and cold and furnished him with many comforts; a monument to his industry; yet it was hardly a work of art and I do not believe there are many of you here who would be lost in admiration of it, and I must confess I could hardly expect my operation would call out any greater commendation. The parts did not have a natural appearance; there was something about them that was imperfect, I could appreciate the lack of that something, yet at the time I could not tell to save me what it was. Well, I commenced to study plates on the subject, then I studied from nature, but it was not until I had made a number of drawings, carefully estimating each line and light and shadow, the solid geometry of the parts, and architectural peculiarities, fixing the whole securely in my mind so I could accurately reproduce them from memory, *that* I was able to criticise my own work and elaborate the little details that were quite essential to reconstruct the parts so as to simulate nature.

Another thing that an education in the art of drawing does for the surgeon or doctor is to sharpen his powers of observation. This holds true for all classes of people but is of special value to our profession. In my early studies I was taught to draw the various bones and organs, not only to fix their general characteristics in my mind, but that I should see things about them that I otherwise would not notice, and having found and depicted them once would look for and describe similar facts when time or necessity did not demand such elaborate methods.

I am not sure, but I think this idea was first instituted, at least in this country, by that greatest of all teachers, the late Prof. Agassiz. Perhaps I can do no better than to describe his method of teaching and drilling a student, by relating the experience of a friend who applied at the zoological laboratory and stated that he had enrolled his name at the scientific school as a student of natural history. After questioning him a few minutes the professor took a fish, saying: "Take this fish and look at it, we call it a Haemulon; by and by I will ask you what you have seen." He showed him how to take care of it and then left him. My friend says that in ten minutes he had seen all he could see in that fish, and started in search of the professor, who however had left the museum. He then returned to his fish and gazed at it steadfastly. A half hour past, then an hour, then another hour; the fish began to look loathsome. He turned it over and around, looked it in the face, ghastly; from behind, beneath, above, sideways, at three-quarters' view, just as ghastly. He went to dinner, returned, took up the fish again and began to look at it. He could not use a lens and all instruments were interdicted. Only his two eyes, two hands and the fish; it seemed a most limited field. He pushed a finger down the throat to see how sharp the teeth were. He then began to count the scales and was soon convinced that this was nonsense. At last a happy thought

struck him. He would draw the fish; and now with surprise he began to discover new features in the creature. The professor just then returned. "That is right," said he, "a pencil is one of the best of eyes."

I will not continue further on my friend's experience, except to say that for three days he continued the study of this fish, and that a year afterwards when, with some student friends, he was amusing himself chalking outlandish beasts upon the museum blackboard, prancing starfishes, frogs in mortal combat, hydro-headed worms, stately crawfishes, bearing aloft umbrellas, and grotesque fishes with gaping mouths and staring eyes, the professor came in, looked at the fishes and said with amusement, "Haemulons, every one of them, Mr B— drew them." My friend says to this day if he attempts to draw a fish he can draw nothing but Haemulons.

I think these brief remarks may be efficient to show the principal points of interest from a subjective standpoint. There is yet to be considered the value of drawing from the point of teaching or the objective view. This is of two types, that which is for the education of the profession and that which is used to demonstrate conditions to the patient or to the laity at large.

If you were to make a careful inspection of the various works on surgery and medicine in all their branches you would find that most of them are full of illustrations, and as a matter of fact these illustrations are often of as much, or even more, value than the text. You will readily understand why this is so from my previous remarks to the effect that no word picture is efficient to describe certain conditions so true that you can reproduce a correct drawing from it. As accurate knowledge is essential every means is made use of to demonstrate medical facts in careful and scientific detail. A good illustration not only serves to elucidate many elements of a case but it also enables the physician or surgeon to grasp more quickly or intuitively the points of interest. In certain instances where a diseased condition exists you can recognize the character of it at a glance if you have before you a correct colored drawing with a tag, *i. e.*, its name attached to it. This you will readily conceive is of vast value when you consider the fact that there are many conditions that are so rare, yet none the less important, that but a limited number of men see them, and they not often. When we attempt to make a diagnosis everything is considered in a questionable case that would produce the symptoms present or any part of them, these are eliminated from the case one by one, by careful consideration, until there is only left, in an ideal diagnosis that which is the cause of the trouble. Now as our knowledge of many conditions has no practical basis and dependent entirely on theoretical or didactic teaching, the conceptions we obtain from a good illustration are the nearest to the truth that we obtain.

There are very few physicians or surgeons who are capable of making a good drawing, one fit for reproduction, and as a result writers frequently and generally are obliged to call in an artist to do this work for them. There are certain things in every case that should be clearly defined or emphasized, in other words, the drawing should not be made entirely from a high art standpoint, with clear and obscure effect, but should be in a certain measure, diagrammatic as it will then be more clearly comprehended. You will thus see the great help to a

writer who can make his own illustrations. On the other hand many illustrations can embody to a vast advantage the highest principles of fine art, and in pathological work, color enhances the value of a drawing very much. Simple outline drawings or diagrams are often of great value, and are of special importance in showing mal-positions of organs and the motive force productive of these changes.

As a teacher then, and every man who attains prominence in his profession becomes more or less of a teacher, the highest knowledge in an art education may be a most valuable factor in his education and will go far toward helping him ascend the ladder of fame if properly employed. As a surgeon alone, even with the endowment of an unusual amount of skill, a man will rarely attain high distinction among his fellow practitioners, unless he can show to the world and the profession his special ability. Truth travels slowly and he would enter that unknown land before fame reached him if, unaided, he depended on the success of his knife to establish a name and reputation. He must be attached to a large hospital, unless by writing, original research and publication he can bring himself into recognition. His work must be accurate and clearly and concisely stated. If carefully illustrated it will catch the attention of the profession quickly, for a good cut tells the tale at a glance.

In all the branches of Zoology and Biology, an art education is absolutely essential to him who would enter original research or instruct. It is not less important for any one who enters into the higher life of the medical profession for the same purpose, *i. e.*, the instruction of his confreres; and here I would like to emphasize a special value of a good, carefully made and accurate drawing. The facts in a given investigation are very often interpreted differently by different investigators, and this is shown in the verbal descriptions. A drawing, if accurate, is an expression of the subject that carries evidence in itself of value for showing the falsehood of a verbal description, or of endorsing its truth. It enables different investigators to study facts of a case from investigations of others and form conclusions of their own which may be quite different from that of the original author even to the extent of a direct refutation. This fact I made use of in one of my earlier investigations on the development of the ear, where, after studying the changes from original specimens and drawings, I was able to show that in the drawings of others the same changes were shown as in my own but that they had been falsely interpreted.

You will easily comprehend the difference between a photographic illustration and one made from a drawing when you bear in mind the diagrammatic character of a good illustration. If you take a pathological specimen, for instance, one with several parts of an organic system, looking at the mass as a whole it is apt to be very confusing and many ludicrous mistakes are made by the untrained student in failing to recognize the organs themselves, so distorted are they by the changes of disease. For instance, I have known a very bright man to mistake a piece of lung tissue for that of the liver. When a man combines the training of the artist with that of his profession, he will strive to make these points clear in his illustration by emphasizing the outline, increasing the light and shade and adding composition to the whole, so as to make his work show at a glance what re-

quires at times considerable study of the raw material to define. For this very reason photographic or mechanical illustrations can never displace the skilled productions from an artists hand.

It is a part of our own duty at times to tell the patient what ails him. This many physicians deem unwise, and the reason is generally found in several facts. One, very important, is the physician may not know himself, or at least is not sure of his diagnosis. Many cases require a great deal of study on the part of the doctor to determine the exact nature of the disease, and often there is a doubt left as to the real pathology. Another important reason for silence on the part of the physician is the great difficulty of transmitting in a comprehensive manner ideas that require a specific amount of special knowledge for the intelligent understanding of these ideas, a knowledge that very few patients possess.

However, there are many conditions like rupture, displacements of the uterus, etc., that are very definitely diagnosed, and can be clearly explained to most any one by the aid of rough diagrams. A quickly made sketch will show at a glance the normal condition and convey a very clear image of the condition to the patient. One can then superimpose another sketch over the first which will show the change that has taken place. The whole is quickly grasped by the patient, and with this foundation it is simple to explain the changes that occur and the significence of treatment. This application of a knowledge of drawing has a very extensive field in medicine, and is often put to excellent use by many who possess the artistic ability.

There is one more value of an ability to make a good drawing which I wish to speak of, and one which has been a source of the greatest satisfaction to me during my whole career in surgery. It is the completion of my private records of many difficult operations by the addition of a wash drawing of the specimens removed. Many of these are reproduced and published, yet many remain in my possession alone, and, as case after case of a similar nature comes up I can refer to them, compare them and draw valuables inferences from these comparisons; show them to my patients in explaining their own case, and present palpable evidence of a personal nature that serves measurably in fortifying the same patients for the struggle of mind and body that precedes their battle for life under a surgeon's generalship. These records of conquest and personal achievement are like a collection of stamps to the stamp collector, insects to the entomologist, minerals to the mineralogist; they afford the particular pleasure that comes from agreeable occupation, and at the same time they improve the mind by their educational forces.

I cannot help feeling that my career in surgery was greatly influenced by a knowledge of art, for I can look back upon the past and note from time to time the advantages it has afforded me and the advice of many of my associates confirm this opinion. I am so much impressed with this view that I would heartily recommend any young man intending to study medicine not to neglect his training in drawing, but to push it until he has attained a high degree of skill, and is fitted to produce work that can be reproduced by half tone processes, which will be a credit to the book maker's art. His education should cover the various free hand divisions of drawing

in ink, pencil and water-color. He should have a good knowledge of the principals of composition, and finally he should pay special attention to brush drawing in black and white.

He should be informed in the various processes of reproduction and able to select the best method for different types of illustration, and be capable of going to the plate maker and dictating intelligently his various wants.

If he has push, genius and a love for study and his profession he will find fruitful application of his knowledge in anatomy, pathology, bacteriology, surgery, medicine, in fact in almost every branch of medicine of which he should see fit to make special study or original investigation.

In these few remarks I have endeavored to give the salient features, as they have appeared to me, of the value of drawing to my profession, but I feel like many of you who have finished your daily study and are taking a last long critical look at the canvas before you; there is a sense of having accomplished much, but that which you have failed to achieve rises forcibly within you and after the first pleasure of a partial success is over the faults impress you all the greater. It is the recognition of these faults and their correction that makes you a master. The application holds true in all but mathematical sciences. When you are ostensibly to the world a master there is yet much to master, and it is in this fact alone that you have the force which constantly stimulates the enthusiastic individual onward, searching for more and new light, and preventing him as long as health and life lasts from losing interest in that which he has chosen for his life's work.

A physician then like an artist will turn toward every means that shows a prospect of help if he is anxious to achieve success in his profession, and after every effort, in the eve of a prolonged life of constant and hard study, from which he has gained the confidence of the profession and laity, his final position will still leave room for further application and improvement.

SOCIETY REPORTS

THE SOCIETY FOR MEDICAL PROGRESS OF NEW YORK.

REGULAR MEETING HELD ON WEDNESDAY, JANUARY 3, 1900. DISCUSSION ON TYPHOID FEVER.

This subject was discussed by Drs. Henry Illoway, Wm. H. Porter, W. Gilman Thompson, Robert H. M. Dawbarn and Charles L. Dana.

Dr. Illoway, taking up the Medical and Dietetic Treatment of Typhoid Fever, said:

My old preceptor, who was at the same time Professor of Practise in the College in which I was taught the *Ars Medendi*, when speaking of the treatment of typhoid fever, was accustomed to say, in order to impress it the more upon the students, that if he were ill with typhoid and were compelled to choose between a good nurse and a good doctor, he would prefer to take his chances with good nursing. This was the teaching of Trousseau and so also taught Graves, the eminent Irish clinician.

It was the expectant plan of treatment, *i. e.*, you place your patient under the most favorable hygienic conditions possible, see that he has as good a room as his circumstances can command, that it be kept well aired, that he have a proper bed and that it be kept comfortable for the patient, that his person be properly cared for, that he have the proper food and drink, and that he have these at the proper times, and leave the disease to run its course, without any or but trivial medication, keeping, however, a watchful eye for the accidents liable to occur at any time, as weakening of the heart, excessive diarrhœa, hemorrhage, bronchitis, laryngitis, involvement of the kidney, etc.

On the other hand, there are those of the contrary opinion; not alone they do not favor trusting so much to the *vis medicatrix naturæ*, but they believe that disease should be combatted vigorously and energetically, with all the means, the many remedies afforded by the pharmacopeia, at our command. According to the views held as to the pathology of the disease, or as to the primary importance of one or the other manifestations of the malady, so the medication, and thus various specific methods of treatment have been formulated.

1. *The Antipyretic Method.*

High fever is the source of greatest danger to the patient. To avoid this, the temperature must be kept down and not allowed to rise above a certain degree (usually 102° 5F). Moreover, by this course, the duration of the disease is shortened and the evils resulting from a long continued febrile state are warded off.

Various remedies are prescribed for

this purpose: *Quinine* 15 to 20 grains in one dose, whenever the fever reaches a certain height: *Salicylate* of Soda in doses of 1 to 1 1-2 drachms given in the same way: *Antipyrine* 15 to 30 grains repeated every three hours until the temperature is down to 100° F. or to normal, and then omitted until the fever has again risen to a certain height.

Antifebrin in doses of 4 to 8 grains administered in the same fashion as Antipyrine. *Phenacetine*, *Salophen*, *Kryofine*, in their appropriate doses and administered as already stated for Antipyrine, all have their advocates.

Excellent results are claimed to have resulted from this plan of treatment, especially with the group of specific Antipyretics.

2. *The Antiseptic treatment:*

A. To destroy the materies morbi, *i. e.*, the specific cause, in the system, is the principal indication.

Carbolic acid is administered regularly; 5 to 10 grains are given in the 24 hours. *Iodine*, a solution is made as follows:

Iodine 1 part, Potassium Iodii 2 parts, distilled water 10 parts, and of this 4-5 drops in a glassful of water aregiven every two hours.

Some combine the carbolic acid and Iodine, and give them together. Roth sought to combine the antizymotic and antipyretic treatment in the combination of Carbolic acid, Tr. of Iodine and Tr. of Aconite.

B. To keep the intestinal tract aseptic, if possible, and thus prevent intoxication from this source. The local manifestations of the disease therein are beneficially influenced, and in that way the disease itself. Its duration is shortened. *Silol*, *Salacetol*, *Beta-Napthol*, *Calomel*, a few doses (2-3 of 5 grains each) administered at the early outset of the disease, are said to have greatly modified its course. Wunderlich claimed to have observed that as a result of such administration, the disease ran a milder and more favorable course than it would have otherwise done.

The Calomel is given if the patient is somewhat constipated, or if the diarrhœa be of a mild character (2-3 stools in the 24 hours.

3. *The abortive treatment:*

Calomel. Wunderlich was inclined to believe that this remedy administered as described, did sometimes abort the disease.

Dr. Woodbridge, of Ohio, has lately called attention to an abortive treatment of Typhoid fever, based evidently on the observations of Wunderlich, by means of a combination of Calomel with various antiseptics, as Guaiacol Carbonate, Menthol, Thymol, etc.

4. Another specific form of treatment directed to controlling the flux of blood in the intestinal tract, and thus influencing the local manifestations thereln of the malady, was and is still considerably in vogue in France. *Ergotine* is the drug and 15 to 24 grains are given in broken doses in the 24 hours.

However the authorities, that is the men of large experience with the disease in its various forms and types, as Jenner, Strumpell, Shattuc, Osler, Nothnagel, are agreed upon this, that the extraordinary medication, the liberal dosing, of these specific methods of treatment, accomplishes but very little, if anything. Quinine and Salicylic Acid have but little influence on the pyrexia but cause much discomfort to the patient, and in the case of the latter may prove a source of danger to him. The same applies to the free use of the Antipyretics. The pa-

tient is tortured with large disagreeable doses of medicine that are no particular benefit to him, as is shown by the tables of cases treated with these solely, and the danger of heart failure, which is always present in Typhoid, is greatly increased. As to the Antizymotic treatment, that is now mostly a remembrance, and we rarely hear of anybody prescribing Carbolic acid, though we do still see Iodine occasionally given. We also know to-day that there are other and more important factors than the state of the intestines that determine the degree of infection and the severity of the malady. The dangers of auto-intoxication from the bowels, and the advantages to be derived by rendering them aseptic (if such a thing were possible) are very greatly overestimated, as can be readily seen by a comparison with cases treated otherwise. Typhoid fever cannot be aborted. Once the infection has seized upon the individual and permeated his organism, the malady engendered thereby must run its course, and no drug or combination of drugs to us now known, can prevent it. The expectant method of treatment, the waiting method, as defined at the outset, with certain modifications of later days, as the cold or warm bath, cold sponging, etc., which will be treated in detail by another gentleman, is the method most beneficial to the patient. It gives him the greatest comfort, avoids all extraneous deteriorating influences, and thus guards him still more carefully against intercurrent accidents, the really dangerous element in this disease.

But there is this to be said also, that whilst in hospital practice the expectant method can be carried out strictly, it is not so in private practice. The lay folk around the patient, his friends or relatives, will not be content with merely attending to his food and drink and sponging or bathing him occasionally; indeed, they will feel as if they were not doing their whole duty by him. They must be giving some medicine; then only will they be satisfied and have hopes of his recovery.

This is a factor that cannot be ignored. To comply with this desire of the friends, a natural feeling inborn almost in people, and at the same time adhere to the expectant treatment, my practise was this: I prescribed *Spirits of Mindererus*, a teaspoonful with a tablespoonful or two of water, every two hours. This preparation is a mild diaphoretic, a good divretic, a moderate expectorant and possesses also some stimulant properties; a remedy, therefore, which meets many indictations of the disease, can only do good and absolutely no harm. It is readily taken by the patient, helps to allay the thirst and to relieve considerably the dryness of the mouth.

I also direct that *Quinine* be given in doses of 3 grains 3 or 4 times per day. This I administer for its general tonic effect, and particularly for its controlling influence upon the nervous system.

It has been amply demonstrated that with high body temperature, there is frequently, in fact most usually associated, a marked deficiency of the H. C. L. element of the gastric secretion, sometimes complete anacidity. When, therefore, there was disgust for food, it was taken as evidence that the H. C. L. was deficient in the stomach juice and *Hydrochloric Acid* was prescribed, and always with good results. Moreover, regard was had to its influence upon the state of the digestive tract, and it was given as much for its antiseptic action. I directed either the Acid Hydrochloric

dilution of the Pharmacopeia 5 to 8 drops in sufficient water 3 to 4 times daily, or the following, a favorite prescription of my friend, Dr. C. G. Comegys.

R.

Acid. Hydrochlor., c. p., ½ drachm.
Syr. Aurantii, 2 ounces.

M. Sig. Put one teaspoonful in a glassful of water and allow the patient to drink therefrom as he may desire. When it is all taken, make up another glassful. This is an exceedingly pleasant mixture, and is most grateful to the patient.

When the Hydrochloric Acid is given, the Spiritus Mindereri is omitted.

No other medication was resorted to as long as the temperature remained at or below 104° F. (axilla). When it rose above that and could not be depressed by cold or lukewarm sponge baths (I usually directed vinegar to be added to the water) an Antipyretic, at first * Antipyrine, then Phenacetine and still later Kryofine was given, usually only one dose (I rarely found a second dose, at the ordinary interval, necessary), and not repeated until the fever had again risen beyond the height above mentioned.

Occasionally we find very marked headache at the outset of the disease, sometimes so severe as to cause the patient great suffering. With this there may or may not be present other symptoms of cerebral irritation, as photophobia, retraction of the neck, etc. I have always looked upon this headache, when very severe, as of grave import, as always meaning a very severe and very protracted case. For its relief, outside of the cold or warm applications to the forehead, the old-fashioned brown paper and vinegar I found quite useful, the Bromides are usually resorted to. My own practise was to prescribe for the stronger and more robust looking, a mixture of *Spiritus Mindereri* 1 ounce and of *Potass. Bromid.* 1 drachm (of this 2 teaspoonfuls in 3 tablespoonfuls of water were given at a time and usually with rapid relief; if necessary, the dose was repeated in 2 hours) or *Potass. Bromid.* with *Dod. Bromid.*; for the weaker and more debilitated looking, I at once directed stimulants, whiskey, milk punch, sherry, wine, whey, at regular intervals.

Insomnia is also, at times, a very troublesome and with some, a particularly distressing feature of this early period of the disease. The drugs prescribed therefor are the *Bromides*, *Chloral*, *Hyosciamus*, alone or in one or other combination. In my own cases, the medication was directed by the appearance of the patient. For the stronger and more robust looking, I prescribed Bromide of Potass. with *Lupulin*, or Bromide of Potass. with Bromide of Soda; for the weaker and more debilitated, I prescribed a stimulant, whiskey, milk punch, sherry wine, to be given in the early part of the night, and if this did not answer and a soporific was absolutely necessary, I gave *Paraldehyde*. The reasons for this preference can be found in its physiological action.

A careful watch must be kept upon the heart, and any flagging therein at once met with the cardiac stimulants and tonics, *Digitalis*, *Strophanthus*, which I very much like, *Caffein*, and the alcoholic stimulants, whiskey, brandy, sherry wine, or some of the strong aromatic cordials, as Chartreuse, if preferred.

The alcoholic stimulants, which are

*This refers to the years and the sequence in which the various antipyretics were brought out.

at the same time foods to a certain extent, are always indicated and always required when subsultus, tremor or delirium are prominent features of the case, especially the latter; it may almost be said to be a rule, the more marked the delirium the greater the amount of alcoholic stimulant to be given.

Pneumonic complication also calls for the free use of alcohol. In addition thereto, *Carbonate of Ammonia*, Digitalis, are the remedies to be prescribed.

Diarrhœa, if moderate (3 to 4 stools in the 24 hours), need not cause anxiety, and Trousseau said that he used nothing stronger therefor than an infusion of Chamomile thrown into the rectum once or twice a day. When it is profuse, or becomes so, we must check it in a measure. For this purpose we may prescribe *Sugar of Lead*, which with a little powdered liquorice, is readily taken by the most fastidious and by children. *Tanningen* can be given, or Bismuth Subnitrate. I very much favored the latter, and gave it with a little Tannic Acid (1 1-2 to 1 grain to each dose). It may be combined, and many do so give it, with an intestinal antiseptic, as *Salol* or *Beta Napthol.*

In the great majority of the cases occurring in my own practise, a constipation prevailing throughout the whole duration of the sickness was a feature. (In this regard there seems to me to have been a marked change in the type of the disease.) It is advised, and Wunderlich favored this practise, to give at the outset 2 to 3 doses of Calomel (on different days) to thoroughly clear out the intestinal tract. He believed that it had a decided effect in rendering the course of the malady much lighter and more favorable. In the latter periods, it is advised to relieve the bowels with *Castor Oil* or *Rhubarb*—the Compound Rhubarb powder is excellently adapted to these cases. I always confined myself to enemata of cool water (cooler in the summer and warmer in the winter months), to which, if there was much flatus present, I directed 10 to 15 drops of Spirits of Turpentine to be added. When associated with the constipation, or even with a trivial diarrhœa, the tongue was coated with a heavy yellow fur, what the older writers called bilious, a few small doses of *Bluemass* (1-2 to 1 grain) in pill or suspended in Aromatic Syrup of Rhubarb (when diarrhœa was present), were prescribed and always with much benefit.

Tympanitis I always combatted with *Turpentine.* Though some of the modern writers do not look upon this drug with favor, I myself regard it as most valuable both in this disease and in other affections of the intestinal tract. I give it in no other way than as an emulsion, and only 4 to 5 drops every 3 hours. I supplement it with an external application of turpentine, a little thereof being sprinkled upon a piece of flannel and laid upon the abdomen and kept there.

Another indication for turpentine is the dry glazed tongue with the fiery red tip. This, the practise recommended by the older Wood, can, I believe, be always followed with benefit.

Hemorrhage is regarded by the profession in general as a serious matter, though the authorities are not agreed upon this. Trousseau and Graves, men of large experience with the disease in its worst type, did not so regard it. Indeed, Trousseau maintained that it is often beneficial, partic-

ularly in relieving the Sensorium. Osler holds it as of serious import, and the Munich tables of two thousand cases seem to bear out this view. When medication is resorted to to arrest the flow of blood, or prevent its recurrence, the remedies advised to be employed are *Sulphuric Acid* (dilute or Aromatic); *Rhatany, Catechu, Sugar of Lead* (with or without *Opium*—though Opium is usually combined with it to insure arrest of peristalsis); *Tanningen. Turpentine* has many advocate as an excellent hæmostatic. One of the advantages of the employment of this drug, as described above, is this : that it has a marked influence in preventing this complication.

Trousseau, who believed the hemorrhage to be due mainly to a change in the constitution of the blood, prescribed Cinchona powder in large doses (60 grains given in a small cup of black coffee per day) not particularly as a hæmostatic but to correct the tendency to a recurrence of the hemorrhage. He regarded it as most efficacious therefor.

Dietetics.

It is the general consensus of the whole profession that typhoid fever patients must be fed.

It is, furthermore, the general consensus that the food given should be of a bland fluid character, like the *tenuis victus* of the father of medicine.

There is, therefore, not much to be said upon this point.

Where it is well borne milk is a most excellent food, combining, as it does in itself, all the elements necessary for the nutrition of the body. I usually directed 5 to 6 ounces to be given every 2 to 3 hours, according to the digestive capacity of the patient. When the taste was objected to, this was corrected by the addition of a pinch of salt, of 2 tablespoonfuls of coffee, or of the same quantity of tea, according as the patient preferred.

When it disagrees, causes nausea, distress in the stomach, much flatulence, or diarrhœa, the decoctions of the cereals Barley, Rice (if there be diarrhœa or a tendency to looseness of the bowels) or Oatmeal (if the patient is constipated) can be given instead. My friend, Dr. Seibert, feeds his patients with pea-soup. The only apparent objection to this would be the flatulent character of peas.

Meat broths made of beef or mutton (if the latter, it should be allowed to cool when prepared, the fat then skimmed off and reheated when about to be given), Beef tea, are all excellent, more as stimulants than as foods, and may be given to patients alternately with one or the other articles above mentioned. This will prevent any palling upon the patient, as usually happens when he is confined to one article of food alone. I believe this, the prevention of disgust for his food, to be a matter of much moment to the sick, in the treatment of all protracted and very debilitating maladies.

I would not allow solid food until convalescence is fully established, 10 to 14 days after complete defervescence, and then only in the most guarded and careful manner (beginning with a small piece of broiled steak or a small broiled mutton chop.)

Regarding the alcoholic stimulants, sufficient has already been said.

Cold water, as a drink, should be allowed freely to all fever patients. Its importance to the internal organs and to the renal function cannot be overestimated. Plain water, or some one of the almost neutral mineral waters, can be given. Occasionally, if there be no diarrhœa, the drink can be Acidulated (Hydrochloric Acid,

Lemon juice, Raspberry Vinegar). With patients constantly clamoring for water and gulping it down in large draughts, the precaution must be taken to give them but a moderate quantity (3 to 4 ounces) at one time; otherwise, if allowed unlimitedly, the stomach will be overdistended, it will lay heavy upon it and cause distress; furthermore, the already enfeebled gastric digestion will be weakened still more. Diarrhœa may be caused thereby. To patients in a state of torpor or stupor, who do not ask for it, it must be offered at stated intervals, and they should be made to drink.

H. B. S.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPÆDIC SURGERY.

Meeting of January 19, 1900.

THE NEURO-MUSCULAR ELEMENTS IN HIP JOINT DISEASE.

Dr. N. M. Shaffer read a paper, of which the following is an abstract: If, as was generally conceded, the origin of hip joint disease was in the ephiphysis, a great centre of growth and development supplied from the central, spinal and great sympathetic nervous centres, it would be readily seen that the presence of a foreign body like the bacillus of tuberculosis in such an osteitic focus would cause serious nerve irritation.

The following neuro-muscular elements had been recognized and described: 1. Involuntary tonic muscular contraction. 2. Muscular atrophy. 3. Reduced faradic reaction. 4. Increased muscular excitability. Together they presented a clinical picture of an irritative, peripheral nerve lesion and gave expression to a distinct reflex spinal condition. They were absent from a joint suffering, a simple injury and from primary tuberculous degeneration of synovial membrane, which was comparatively simple in structure and nerve supply.

REFLEX MUSCULAR SPASM.

This sign had been noticed early in his practice by the reader of the paper, who had spoken of it in 1872 as a "reflex muscular spasm," the first time, so far as he was aware, that the term had been applied to the sign. The occurrence and character of the spasm were unmodified by opium or chloral, but it was annulled by ether or chloroform. It produced joint deformity and sometimes simulated anchylosis. Clinically it was of the utmost importance. Its presence was the first sign of the disease and its absence the surest warrant for the suspension of treatment. It was involuntary, tonic, tetanoid.

When passive motion reached a certain point, at which the intra-articular pressure excited nerve irritation, the

muscles involved, hitherto quiet, suddenly contracted and resisted further motion. When that point was reached the alert joint sense almost talked to the observer. When convalescence approached and actual immobilization was no longer required the motion permitted by the apparatus used should be to the inner side of the point indicated by the spasm. Protection, however, should be maintained until the joint was free from reflex muscular spasm, when the patient might safely be restored to a gradually increasing use of the weakened limb freed from its diseased joint. Cases illustrating the ill effects of not heeding this indication were related.

MUSCULAR ATROPHY.

In this sign of joint disease we were dealing with something more than the effect of disuse. It was far from being functional atrophy. Although an early, important and expressive sign, its significance was impaired at a later stage by the incidental effects of mechanical treatment, which included rest and compression. This was to be borne in mind when the patient and his friends were apt to think that the atrophy was entirely the result of maintaining too long the restraints of treatment.

Before applying electricity to the muscles involved the reader of the paper had surmised that reduced faradic reaction would be found. It was seen to be uniformly present in all of the atrophied muscles which were subjected to electrical test. In 1892 increased muscular excitability was shown by Dr. E. G. Brackett to be a fourth constant neuro-muscular element in hip joint disease, readily demonstrated early in the disease by the exaggerated patellar tendon reflex.

DISCUSSION OF REFLEX MUSCULAR SPASM.

Dr. V. P. Gibney said that the reflex muscular spasm was valuable as an aid to correct diagnosis and of great assistance in determining the time when to give up protective treatment. It was difficult, however, in every case to recognize the final disappeasrance of this sign. The best test of a joint which had been long under treatment was the use of the limb for one or two weeks, even in spite of the spasm. If, after free use, close observation revealed an increase in motion the brace might be discarded, but if the range of motion had decreased, with perhaps a little more spasm, mechanical treatment should be resumed.

Dr. T. H. Myers said that the presence of synovial tenderness, or periarticular pain, or stiffening of the affected joint, or neighboring joints, from prolonged immobilization, might easily make difficult a clear recognition of the resistance to motion made by reflex spasm. It was better to err by attributing the resistance arising from these causes to reflex action than to make the mistake of not recognizing the presence of the tetanoid spasm. He related the recent history of a boy, who had been entirely free from all other signs, in whose case a positive, afterwards confirmed, diagnosis was made on the presence of slight reflex spasm near the limit of passive motion, and the history of a girl seen ten years ago who, on superficial examination, appeared to have been cured of acute hip disease. There was wide motion and no lameness. When, however, the thigh was flexed, and at the same time prevented from outward rotation and abduction, a slight reflex muscular protection was found at the limit of motion. As the parents objected to a further continuance of treatment, the

patient was dismissed "improved, but not cured," to suffer a return of the acute symptoms a few months later.

Dr. G. R. Elliott thought that there was no hard and fast rule as to the discontinuance of treatment. Instruments should be used readily, permitting whatever increase of motion the symptoms warranted, to be discarded only when free movements for a considerable time were followed by no bad results.

Dr. W. R. Townsend recognized the nervous complications of joint disease and the practical value of reflex contraction as a clinical sign in disease of the hip joint.

Dr. H. L. Taylor acquiesced in the views presented. First, that reflex contraction was the earliest sign of hip disease, and second, that so long as it persisted treatment of the joint could not be safely discontinued, views generally, if not universally, accepted by American orthopædic surgeons.

Dr. R. Whitman agreed with the now commonly accepted view of the diagnostic significance of the reflex muscular spasm of hip disease. He thought that muscular spasm in convalescence corresponded to the acuteness rather than the area of the intra-articular process, and called for absolute restriction of motion, in addition to protection, for the completion of resolution.

Dr. A. B. Judson said that John Hunter had noticed the peculiar action of the muscles in joint disease. He said (1786): "Stiffness of the joint depends an the involuntary contraction of the muscles. . . . . I think this arises from sympathy, or a consciousness of the parts being unable to answer to the action of the muscles, and it comes nearest to human reason of anything in the body.' The words "on guard" (H. G. Davis) and the graphic expression, "vigilance musculaire" (Vorneuil) had been applied to the watchful attitude of the muscles in joint disease. Though present in other diseased joints reflex muscular action was seen best in the hip, because, being a ball and socket, it depends more than any other kind of joint on its muscular system for both motion and stability. For this reason reflex muscular contraction was of great importance in the diagnosis of the earliest stage of hip disease, when the lameness is inconstant, the atrophy equivocal and the pain referred to the knee. It was of no less importance as a sign in convalescence.

Dr. Myers said that ten years ago he had observed five patients affected with hip disease, each of whom received a number of injections of tuberculin. He had made twenty or thirty tests of the muscular spasm in each case, and it was found that in the reactions caused by the injections the spasm became more alert as the temperature arose and diminished with the fall of the temperature.

Dr. Elliott said that nerve irritation at the site of the disease was reflected through the cord and gave rise to the spasm of the muscle.

Dr. W. Truslow said that the fact that slowly applied and progressively increased mechanical traction completely and quickly overcame the muscular action suggested the tetanoid quality of the spasm.

Dr. F. Peterson thought that the word tonic expressed the condition of the muscles in hip disease and that the word tetanoid was not applicable. Apart from a reference to the reflex theory, the tonic spasm might be explained on the theory of an irritation of the cells of the nerves connected with the joint in the same way that the

tonic spasm in muscular rheumatism, so called, of the sterno-cleido-mastoid muscles is supposed to come from irritation due to some poison affecting the nerves. Hyper- and hypo-tonia of the muscles might be here considered. In locomotor ataxia hypo-tonia is referred to destruction of nerve fibres, and the muscles in joint disease might by some irritation be kept in a condition of settled hyper-tonia.

Dr. Taylor thought that tetanoid had a certain suggestiveness, but he preferred the word tonic or some one of the other terms which were in general use.

Dr. Elliott thought that tetanoid, better than tonic, defined the character of the spasm, which was sometimes clonic.

Dr. Myers thought it probable that a similar spasm might attend non-tubercular lesions of the bones and joints, such as partial fracture or complete fracture without displacement. He thought he had seen spasm very like that of hip disease in such cases.

Dr. Taylor said that there was nothing especially diagnostic of the tuberculous condition in tetonoid or reflex spasm, which might appear different at different stages, or in different cases, of tuberculous disease, as it did in given cases of such different affections as tuberculosis, osteo-myelitis, rheumatism and synovitis, the spasm depending on the location and grade of the irritation rather than on its pathological origin. It would not be often found in synovitis.

Dr. Whitman said that reflex spasm as an evidence of the irritation and sensitiveness of a joint was not found in synovitis and was not restricted to tubercular disease although that disease was its most common cause.

DISCUSSION OF MUSCULAR ATROPHY.

Dr. E. D. Fisher said that these signs of hip disease could be referred to the reflex action of the spinal cord. But using the term reflex did not go far as an explanation. The cerebrum is not involved. Serious implication of the spinal cord or the nerve supply of the muscles was out of the question ; but in malnutrition of the spinal cord he thought we had possibly an explanation. On this theory the whole reflex arc would be involved. Beginning with a sensory disturbance the irritation is carried to the cord through the posterior roots and then to the anterior horn where it caused spinal irritation or exhaustion, if it might be called that, and atrophy. A parallel might be found in disease of the fifth nerve with refl exirritation of the seventh, causing spasm of the face in which removal of the cause of irritation in the nerve or the ganglion relieved not only the pain but the spasm.

The term reflex conveyed little or no explanation unless it became part of some coherent plan the result of reasoning and fortified by postmortem examination. He recalled a case of anchylosis of the knee and atrophy the result of an injury at the age of 7 and followed by an autopsy at the age of 41. There was marked atrophy of the anterior horn in the segment corresponding to the knee and in the cerebral convolution controlling that part of the body. It was common to find atrophy thus localized after the loss of a member in early life.

Altogether the presence of these elements in hip joint disease confirmed the theory of a trophic centre in the spinal cord. Wasting was common at the onset of joint disease in which the consecutive atrophy was always more rapid than in an injury to a large nerve. Recovery was also more rapid than in poliomyelitis

in which the lesion might be a destructive one.

Dr. Peterson said that an explanation by reference to the passage of an irritation to the spinal cord and its reflection along the trophic nerves to the muscles was scarcely a probable one because irritation of trophic nerves generally gave rise, as it did in any sort of nerve, to an excess of function.

In joint atrophy there was wasting away of muscles from wasting away of trophic centres or destruction of trophic fibres. Faradic action was reduced in quantity but normal in quality. The manner of response to the faradic and galvanic currents was normal though the muscle was wasted. The subject was interesting because of the absence of reaction of degeneration. In the atrophies of progressive poliomyelitis, with actual degeneration of trophic centres there was profound reaction of degeneration. In only one other class of marked muscular atrophy was reaction of degeneration absent, the class of primary muscular dystrophies, not due to any nerve lesion, in which there was destruction of the muscular fibres, which wasted away, one after the other those left responding in a normal way. In very marked instances of this condition there was reaction to the faradic current as in joint atrophy. Joint atrophies might be explained in a similar way, without reference to the spinal cord, on the ground that, although many of the trophic fibres coming to the muscles which moved the joint would be connected with the joint, all of them were not and when an inflammatory process in the joint destroyed trophic fibres and produced atrophy some of the muscular fibres were not destroyed and responded with absence of the reaction of degeneration as happened in progressive muscular dystrophy.

In rheumatism and sciatica and other painful affections there was increased muscular excitability as shown in the knee jerk. The response to the stroke of the tendon was however too rapid to allow of a trip to the spinal cord and back, and yet it was governed by spinal cord conditions. Neither this nor the other neurological conditions found in hip joint disease need be necessarily considered in connection with the spinal cord.

Dr. Elliott said that the novel and interesting dystrophy theory might explain the atrophies of monarticular rheumatism and rheumatoid arthritis which were distinct from the joint atrophy under discussion.

Dr. Whitman said that, among other contributing factors, physiological disuse was the most important and constant cause of the atrophy of joint disease, which affected all the component parts of a limb including the bone. It increased for a time more rapidly when the symptoms were relieved by fixation of the limb. It followed fixation of the limb in splints after fracture of a bone.

Dr. Gibney said that much of the atrophy following the use of apparatus for several years was caused not only by disuse but also by constricting bandages and appliances.

Dr. Elliott said that joint atrophy was specific and in no way related to the disuse atrophy and to that which came from bandaging.

Dr. Townsend said that disuse, which was an obvious and controlling factor of the later atrophy, played a very unimportant part in the production of the early and characteristic atrophy of joint disease, which appeared in patients confined to the bed.

Dr. J. B. Bogart said that the joint atrophy of the neurologist arose from a nerve lesion but the atrophy of orthopædic practice had a threefold origin in nerve implication, disuse and the restraint incident to treatment.

Dr. Taylor suggested overwork as a cause of the primary atrophy. When a muscle was exercised beyond a certain point or subjected to prolonged electrical excitement it atrophied and the continuous localized sensory irritation of joint disease might overwork the muscles in a physiological sense through the motor centres in the cord.

Dr. Fisher said that the muscular atrophy caused by over-use could be referred to spinal cord atrophy, as was almost conclusively proved by the experiments of Hodge who had recorded atrophy in the spinal cord cells of pigeons which had been flying for hours.

Dr. Taylor said that in cases of diseased hips of long standing there was an interference with the circulation and an extensive atrophy affecting even the bones which doubless had several factors, including retarded growth of the parts affected, in addition to the early joint atrophy. Similar effects were to be seen in the wake of infantile paralysis and fracture of the femoral neck in children and in certain congenital malformations.

Dr. Judson said that in many cases of serious disability of a lower extremity a large part of the asymmetry was due to hypertrophy of the unaffected limb from over-use.

Dr. Peterson said that the results of joint atrophy could not be confounded with those of disuse. In a shoulder joint, immobilized by acute arthritis, there was rapid atrophy of the muscles, which was absent from a shoulder joint immobilized in any other way. In an injury of the brain, as in apoplexy, there was disuse but no atrophy of the muscles at all. In fracture of the femoral neck in a child one side did not grow as fast as the other In infantile cerebral hemiplegia one side of the body did not grow as fast as the other, not from atrophy but from retardation of growth on the paralyzed side. In any serious injury of an extremity retardation of growth came from disuse, or from interference with nutrition from disuse.

Dr. Shaffer said that at one time he had seen several patients with hysterical imitation of hip joint disease under treatment for months by the long hip splint, adhesive plaster and bandaging. In some of these cases there was muscular resistance, but no atrophy. After true hip joint disease the muscular atrophy might never wholly disappear, but the limb would do its work well. If considerable motion returned to the joint as the result of treatment the patient would walk without a limp, and in anchylosis in a good position a most useful limb would result.

In his earlier studies he had found no reference to the spasm of hip joint disease in the then limited works on orthopædic surgery, but in Charcot's Lectures he had found light on the subject and he had for many years steadfastly called attention to this interesting phase of chronic tuberculous joint disease, and, inasmuch as spasm and atrophy were not observed in chronic synovitis of the knee and ankle, he had proposed that hip joint disease, like Pott's disease, was an osteitis and not a synovitis.

In his paper he had tried to indicate when apparatus might be discarded in hip joint disease. This decision could not be rightly made until the tetanoid spasm was duly appreciated.

It was not difficult to recognize it once its peculiar characteristics were understood. He thought that the word tetanoid would sooner or later be generally considered to be applicable or that some other word, broader than tonic and more comprehensive than reflex, would be applied by neurological students, who had here a subject well worthy their in-

vestigation to the end that the profession might know the real value of the neuro-muscular elements in hip joint disease and recognize that they had a distant pathological origin.

MISCELLANEOUS

THE GENERAL TREATMENT OF PHTHISIS PULMONALIS.

G. A. Evans, Brooklyn, divides pulmonary phthisis into two stages: the initial stage, when tubercles are developing and infiltrating lung tissue, and the stage of softening of these latent tubercles; and gives the symptoms characteristic of each. The treatment of the disease after the appearance of pus in the expectoration, and after the softening has begun, should manifestly be different from that of the initial stage. In the first stage, the indication for treatment is to maintain the body vigor, which is best done by removing the patient from the operation of any and all physically depressing influences. Simple tonics, good food, pure air, and an out-of-door life, with moderate exercise, will, in the large proportion of cases, bring about splendid and speedy recovery. The proper treatment after the necrosis of tuberculous tissue has begun, after purulent matter has made its appearance in the sputum, is drainage to stop the local sepsis and the systemic absorption of septic agents, and above all to limit or prevent self-infection. Drainage may be accomplished only by expectoration, and this must be brought about by local treatment The administration of compressed air in large quantities, associated with antiseptics, has been most effectual in this respect. Phenol, in from 25 to 35 per cent. solution in equal parts of glycerine and water, administered in the form of a fine spray for thirty minutes every day, under a pressure of about one twenty-fifth of an atmosphere, is followed by an immediate improvement in all cases and by recovery in some. Detailed instruction must be given in regard to diet and the habits. A diet list and a list of general directions are given, which include all details which it is essential to impress upon the patient.

Editorial

THE MEDICAL TIMES AND REGISTER is published monthly.

All communications, reviews, etc., intended for the editor should be addressed to 367 ADAMS STREET, DORCHESTER, BOSTON, MASS.

THE MEDICAL TIMES AND REGISTER is published by The Medical Publishing Co., 1409 Arch Street, Philadelphia, Pa., to whom all remittances should be made by bank check, or postal, or express money order.

Subscription price is $1.00 a year in advance. Foreign countries, $1.50. Single copies, 10 cents.

Advertising rates may be had on application at the Philadelphia office.

Original articles of practical utility and length are invited from the profession. Accepted manuscripts will be paid for by a year's subscription to this journal and one hundred extra copies of the issue in which such appears if desired.

Reprints of Original Articles are not furnished except on payment of cost price by the author

Entered at the Philadelphia Postoffice as second-class mail matter.

THE WAR IN SOUTH AFRICA.

The war on now in South Africa is attracting the notice of the whole world in touch with modern civilization.

Not since the Franco–Prussian conflict has there been a campaign between two nations of the Caucasian race on so vast a scale as this promises to be.

To the medical profession in particular the Boer War which, has begun in such desperate vigor, is an object of great interest. Judging from our own experience with the Spaniards in Cuba and the natives of the Philippines the task before England is a stupendous one, only to be compared with her experience in the American War of the Revolution.

The first phase of this war which physicians watch with eager interest is the effects on troops by transporting them 6,000 miles from home.

With us in the Cuban invasion the effects of transporting suddenly troops less than a thousand miles from home were terribly disastrous.

In fact our army, though in Cuba but a few weeks, was rapidly falling to pieces from climatic diseases when General Torro surrendered to General Shafter after nothing more than a few brisk skirmishes were fought.

The same fate had befallen the armies of Spain which were crippled and paralyzed by the effects of climate, and held at bay, and repeatedly repulsed by a motley band of Cubans, in no manner to be compared to the Boers who have already proven themselves warriors of the first order, thoroughly equipped and commanded by generals who need no training in military strategy.

From the able communications of Sir William McCormick it does not appear that up to the middle of December the army had yet began to suffer seriously from climatic diseases. But he tells us that on the day of the disastrous advance on Modder river the temperature was 115 degrees, that there were several overcome by the intense heat, that the water was scarce

and of a bad quality. That heat, impure water, canned food and exposure must soon tell on the physical well-being of the army.

At Magenfaustein of 29 officers of the "Black Watch" 20 were left *hors du combat*, and whole regiments were wiped out. At Modder river McCormick, who was himself at Soudan, tells us that such a storm of shot and shell was never before seen, that at one point stubbornly held by the British, shells and shrapnel were poured in by the Boers in such a storm that for some moments it seems as though the troops were under a cloud of blaze in the horizon.

After this brush with the Boers more than 1,200 were brought in and hurried to Frere, the base hospital. A writer to the *British Medical Journal* says, "the masses of wounded and the long rows of the dead are testimonies of the terrible carnage."

It is said that in the late retreat from Spion Kopf General Warren lost more than 40 per cent. of his command.

What will be the effects of such disastrous repulses on the British troops?

Judging from past history in similar campaigns we must expect that so many and decisive reverses in the British Army can have no other effect than to demoralize it, impair its *esprit de corps*, and very greatly prolong the campaign.

Never has such an opportunity presented itself for a systematic study of modern military surgery. The Mausser bullet, it appears, is a most humane missile, as when it does not kill outright there is not the shattering of bone and mangling of the tissues encountered as when the older pattern of rifle was employed. McCormick says nothing like the mutilating effects of German minie ball or the French Chassport is inflicted by the Mausser rifle.

Several of England's most noted surgeons, many long past middle and even of independent means, have nobly offered their services to science and country.

May they safely return to their people and further enrich the science and art of the profession they have so long adorned and ennobled.

FERRO-SOMATOSE.

BY JOSEPH R. CLAUSEN, A. M., M. D.

For years eminent physicians and chemists have endeavored to obtain a preparation of iron that could be absorbed with the proteid molecules without being affected by the process of digestion. Many were the difficulties to be overcome, chief of these being the fact that all albuminous substances require to be digested before they can be absorbed and assimilated; hence, ferruginous combinanations with albumin could not be taken into the system in their own form, the iron being disassociated from the proteid molecules in the process of digestion and forming other combinations in the stomach, many of them injurious rather than beneficial.

It was to overcome this difficulty that the so-called peptonates of iron were introduced; but, while to some extent they facilitated the absorption of iron, they have failed in their expressed mission, since the iron—not being present in firm combination with the peptones, but only in a mechanical mixture—could not be absorbed in the form of peptonates. It was at this juncture that a food product was brought to the attention of the medical world in which the albumins had been converted by a special process into albumoses. This food preparation, the production of the great firm of Farbenfabriken, of Elberfield Co., Germany, was Somatose. It was invariably found that under its administration there was not only a rapid gain in flesh and strength, but also a marked improvement in the condition of the blood, and for this reason it was largely employed in the treatment of anæmia and kindred conditions, always with satisfactory results. When, therefore, several months later, there was introduced a combination of Somatose with iron it was generally admitted that the true ferruginous proteid had at last been discovered. Nor has there been any reason, as yet, for changing the popular judgment; for after careful tests by eminent authorities, the world over, all agree that at last a means has been found of introducing into the system not only a large amount of the most assimilating nourishment, but also pure iron in firm association with the proteid molecule.

Our personal experience with this later preparation, called Ferro-Somatose, like that of all others who have given it a fair trial, leads us to the conclusion that it is directly absorbed with the proteid molecules in the stomach and intestinal canal, without undergoing any disintegration through the digestive process, and, further, that the conversion of these ferruginous albumins into hemoglobin and tissue albumin takes place more rapidly and completely than in the case of any other albuminous iron preparation heretofore introduced.

Without giving detailed descriptions of the many cases in which we have tested the value of Ferro-Somatose as a chalybeate tonic, and the results of each individual case, my observations ingeneral warrant me in strongly recommending Ferro-Somatose in all conditions of anæmia where an easily assimilated iron preparation is indicated and where at the same time it is desirable to supply to the organism an albuminous element requiring no preliminary digestion.

THE TRADE IN OLD RAGS.

A French journal, the Technologie Sanitaire, of a recent date, has an article on the rag-pickers of Paris which furnishes considerable curious information. We extract from it the following facts:

France exports annually rags to the amount of 27,000,000 francs—say $5,130,000. One reason why the rags are exported, instead of being utilized at home, is the relatively high cost of inland transportation and that by ships on the high seas. A car-load (20,000 pounds) of rags, sent from Paris to Angouleme, where the great paper mills are situated, costs 235 frances, or $43.80, while the same quantity can be sent to New York for 200 francs, or $38.

England buys the greater part of the best quality of the rags, the scraps of fine fabrics, new calicoes, etc., gathered at the doors of the shops of lingerie, shirt factories, etc. These are made into papeterie de luxe, the most elegant papers for fashionable correspondence, etc.

Germany buys the cheaper sorts, for manufacture of the sham correspondence and writing papers, counterfeits of the English papers. A queer fact is here noted—red cottonades are reserved expressly for the manufacture of blotting paper of the commoner varieties, nearly all of which yet used in Europe is the sleezy red stuff, long gone out of use in this country. These bits are carefully picked out and separated from their surroundings, and reserved for this purpose. Deep violet or black paper, such as they used for enveloping needles is made from similar scraps of black and purple cottonades.

The United States takes only the lowest sorts, colored cottonades of any sort or shade, the price of which runs from 1 1-2 to 5 francs per hundred pounds.

France uses no rags in the manufacture of cheap papers. In the outskirts of all the maritime cities and towns, the bits of cordage, rope ends, sail-cloths, etc., which are worn out by long use, are most carefully garnered, as these constitute the most choice and valuable of all materials, and bring a high price. They are used solely in making cigarette papers.

Rags are not used in paper making alone. Woollen rags are converted into shoddy, or old wool, mixed with cotton or fresh wool, and utilized in manufacturing cheap woollen cloths, etc. The rags are carefully separated from cotton, linen, etc., and sent to the factories, where they are first carefully washed, and then thrown into gins, somewhat like carding machines, provided with little wiry teeth that pull them apart. They pass thence into baths which destroy the cotton or other fibers mixed with the wool, but do not affect the latter. After rinsing and drying the fibers are carded and spun into yarn.

The value of all descriptions of rags depends upon their newness and cleanness. Scraps of flannels are worth 1.50 franc (28 cents) the cwt. Scraps of cloth and the various stuffs used by the milliners, modistes, etc., average about 70 centimes (13.3 cents) the kilo (200 pounds). Tailors scraps average 80 centimes (16.2 cents) the kilo.

Nothing is more interesting than to witness the sorting of rags in some of the large chiffonier establishments. They are separated, each in its class, and according to its destination, into great heaps. Here, to one side, lies a heap containing 10,000 old army trousers; here one containing, perhaps, 10 tons of old cotton socks, white or black, as the case may be. Many of the classifiers have, by long years of experience, arrived at such skill that they tell each variety of fabric by the touch alone. They rarely look at a rag, as they have no need to do so, except where classifying by

colors. One can scarcely imagine, however, the most infinite number of distinctions that are made in some of the establishments.

The rag picker does not confine his labors to gathering rags alone. He takes any and every kind of refuse material—old newspapers, which go to the cardboard factories; corks, nails, broken glass (which goes to the bottle works); bones, used in button making, etc.; old brushes, for bristles, etc. Nothing is lost or refused. Even the clippings of hair from the hair cutting establishments are valuable, being sold to the wig makers, etc. So it comes, says the author, who has written up the subject, that a paid man or woman who goes to the perruquiers for a wig may, by accident, be furnished by some of his own natural locks.

A CASE OF MILDSEPSIS TREATED BY UNGUENTUM CREDE.

At the meeting of the New York Academy of Medicine, Section on Obstetrics and Gynæcology, November 23, 1899, Dr. S. Marx reported this case which had surprised him because of the good result obtained. He had used this ointment, he said, in a number of other cases, but without observing any benefit therefrom. In this patient the highest temperature had been 102.5° F. and the highest pulse 120. The patient was a primipara in whom he had induced a premature birth at the sixth month because of a grave and rapidly increasing melancholia. On the third day the temperature had risen suddenly to 101·5° F., and nothing could be found to account for this temperature except two caked breasts. At this time the physical examination had been negative. On October 17th typical pseudo-diphtheritic patches had been found in the vaginaand on the vulva and cervix. The parts had been thoroughly cauterized with pure carbolic acid, chloride of zinc, and solution of iron successively, but without result. The parts had been irrigated very frequently, but there had been absolutely no improvement. Repeated chilly sensations had then been complained of. Having no faith in streptococcus serum, he had tried Unguentum Crede. The ointment had been first used in the evening, and by the next morning there had been a decided improvement in the membranous patches. The ointment had been used every four hours for the first day. In seventy-two hours there had been no trace of the patches. The speaker said that he had never seen any such effect from other remedies.

Dr. John Polak said that he had employed Crede's ointment a number of times and the results had been extremely variable. In one case the results had been excellent, and was of the more significance because no other treatment had been employed. The case had been seen three weeks and a half after confinement. At the time the temperature had ranged between 102° and 103° F.; the uterus had already involuted fairly well, and there had been no membranous patches. After each application of the ointment the temperature had dropped one to one and a half degrees. The treatment had been continued for over a week, and then the temperature had reached the normal and convalescence had been completely established. The case was one of late and persistent sepsis, in which the ordinary local treatment would not have been of value, in all probability. In two cases of post-operative sepsis in which he had employed this method of treatment he believed some benefit had been derived from the ointment, although he could not speak positively on this point.

Dr. S. S. Jones said that he had used the Crede ointment in a number of cases of miscarriage in which the fever and other symptoms had pointed to a mild sepsis, and in these the ointment had seemed to act admirably. He thought the case reported in his paper last year had shown at least one thing —that the ointment had acted very

much like an antitoxin. He believed its use would save life.—*Medical Record*, New York, December 9, 1899.

Prof. Roswell Park, of Buffalo, says in his "Surgery by American Authors," condensed edition (Lea Bros. & Co., New York and Philadelphia, 1899), in Chapter VII., under the heading of "The Surgical Fevers and Septic Infections," the following regarding the treatment of septicæmia:

"Of greatest value also will now be found the silver ointment of Crede (Unguentum Crede). This permits of absorption of silver through the unbroken skin (as in the case of ung. hydrarg.), and the dissemination thoroughout the system of the remarkable antiseptic virtues of the silver itself. Many cases of septic infection promptly yield under the influence of the argentine preparations, which Crede has lately introduced."

The following on "Local Treatment of Erysipelas" is quoted from the same chapter:

"Of all the numerous applications which I have ever tried, I have found but one thing which has given the universal satisfaction afforded by the following prescription or something equivalent to it. Resorcin (or naphthalin), 5; ichthyol, 5; mercurial ointment, 40; lanolin, 50. The proportions of these ingredients may be varied, and I often increase the amount of ichthyol, especially when the skin to which it is to be applied is not too tender. The affected parts are anointed with this, and then covered with oiled silk or some impermeable material, simply to prevent its absorption by the dressings; the parts are then enveloped in a light dressing and bandaged. Whenever I have to deal with local evidences of septic infection, I use an ointment essentially the same as this, and have learned to count on it with more reliance than anything that I have ever resorted to. This one better thing hinted at above is Crede's silver ointment, which is to be used as described above and has been already alluded to in the treatment of septicæmia. As the disease becomes mitigated, the ointment may, if desirable, be reduced with simple lard, and may be discontinued when local signs have disappeared. Absorption of any of these preparations may be hastened by a series of scratches over the affected area with the sharp point of a knife, not deep enough to draw blood, but deep enough to better expose the absorbent vessels of the skin.

"Treatment of threatening phlegmon, or that which is from the outset phlegmonous erysipelas, must be much more radical and consists primarily of free incision down to the depth of the deepest tissues involved. For instance, in treating dissecting and other septic wounds of the fingers this means incision down to the tendon-sheaths, often down to the bone itself. Unpleasant as this may be, possibly even crippling, it is only by such radical measures, early put into effect, that still worse disaster may be avoided. Finally, some aggravated local cases are well treated by a series of deep incisions, even with the use of the curette, the surface after careful clearing being kept buried under some antiseptic solution (silver lactate 1 to 500) or ointment."

In Chapter XXIV. "Treatment of Wounds—Antisepsis and Asepsis," by Charles B. Nancrede, M. D., the following occurs:

"The silver salts introduced by Crede, though not so generally used, are even more effective than those of mercury. Of these the lactate is the more soluble, and may be used in strengths of 1 to 300 down to 1 to

1000. The citrate is used in the proportion of 1 to 1000 or 1 to 3000."

UNGUENTUM CREDE IN THE TREATMENT OF PELVIC EXUDATE.

At the meeting of the Brooklyn Gynæcological Society, June 2, 1899, Dr. John O. Polak said: "I have recently been using Unguentum Crede in several cases of pelvic exudate with the most happy results. It is surprising how it reduced the temperature and diminished the exudate. In one of the cases the exudate reached to the umbilicus, and the temperature was 102° to 103° F. There did not seem to be much toxemia present, and the case was one of those in which we usually prescribe rest in bed and laxatives. In two post-operative cases in which there was a temperature of 100° to 101° F., even after drainage was established, the ointment seemed to have a good effect upon the general condition of the patient in addition to controlling the temperature and reducing the size of the exudate. It is extremely good in cellulitis, and I believe that one man, a Dr. Jones, of New York, has had the courage to use it in a case of puerperal sepsis with no other treatment. I am so well satisfied with the results obtained from the use of this ointment that I wish to call your attention to it in this preliminary report of my cases."

Dr. L. Grant Baldwin: "I have had no experience whatever in the use of this ointment, but I am much interested in it, and will look forward to a further report on this method of treatment from Dr. Polak. I would like to ask him if in the cases in which he used this treatment there was pus, or whether they were merely cases in which there was a simple exudate? It has never been my good fortune to see a case of this kind in which there was no pus. If this ointment will cause the disappearance of large exudates and carry off pus without drainage it is certainly well worth using."

Dr. E. A. Day: "I have had no experience in this direction. Will Dr. Polak kindly gave us the philosophy of this treatment?"

Dr. Polak: "Dr. Baldwin's question as to whether there was pus in these cases raises a very interesting point. In the first case referred to, in which the exudate was very large, the abdominal cavity was not opened, and consequently I cannot say whether there was pus there or not. There are exudates which, whether they do or do not contain pus, will disappear after rest in bed. I have seen several cases this winter in which the patients have recovered without an operation. Still, I can say with Dr. Baldwin that I have never opened an exudate in which I have not found pus, sero-pus or broken-down material; therefore, in cases in which the temperature reaches 103° F. and remains there, the better plan is to open *per vaginam*, and drain them.

"In regard to Dr. Day's question, I cannot tell him anything about the philosophy of the treatment. I believe, however, that Crede claims that this ointment has a direct bactericidal effect upon the streptococcus and communis bacillus, especially the former. I suppose it acts in the same way as antistreptococcic serum. In my hands it has certainly acted better than that has."

Dr. B.G. Baldwin: "I would like to ask Dr. Polak if he refers only to cases of cellulitis or to all cases in which there is pus in the pelvis when he speaks of the patients having a temperature of 102° to 103° F. If the latter is the case the point is not well

taken, for many patients who have pus in the pelvis have no temperature at all. In a recent case, which is still in the hospital, we found an acute suppurative peritonitis, yet the pulse and temperature were normal, the patient walked to the hospital and worked about the wards for a week before operation, while we were waiting until her menstruation ceased. When the abdomen was opened the pelvic cavity was found full of pus and one of the tubes was as thick as my thumb, and contained greenish pus."

Dr. Polak: "I did not mean to imply that there could not be pus in the pelvis without there being a temperature of 102° or 103° F.; but I do think that you will find pus, or something like pus, in those cases in which the temperature remains at 102° or 103° F., and does not come down more than a fraction of a degree in the morning. Of course, we have all seen cases in which there is pus in the tubes or in the pelvis, beautifully walled off, with a temperature not over 99° F."—*The Brooklyn Medical Journal*, October, 1899.

PEDIATRICS

In charge of LOUIS FISCHER, M. D. and GEORGE A. SAXE, M.D.

PALATABLE QUININE MIXTURE FOR CHILDREN.

BY W. J. GREANELLE, M.D.

Having had occasion to prescribe quinine repeatedly for young children, and being dissatisfied with the combination with syrupus yerbæ santæ, I have made a number of experiments with a view to obtaining a pleasant and acceptable quinine preparation which could be continuously administered to children without their objection.

I give below the details for the preparation of a "child's quinine mixture" which I find not only to be readily taken by children, but also serviceable as a bribe to be given after unpleasant medicines, such as stronger solutions of quinine.

The mixture is designed as a tonic and malarial prophylactic for children living in malarious sections. It will serve for active medication in acute cases of malarial disease in children of three years or younger by giving the larger dose at hourly intervals.

I find that children literally cry for it, and that it has frequently served as an excellent bribe, to be given immediately after a simple solution of quinine hydrochloride in water when large doses of the drug are necessary. A teaspoonful of water carrying two or three grains of quinine muriate will be readily taken by any child, with "a spoonful of pink medicine right after." Those who have little patients in large numbers will appreciate this.

1.—
Quinine hydrochlorate ...gr. v-x
Alcohol ..... drm. j
2.—
Oil of cinnamon.....
Oil of anise, āā.....m xxx-xl
Magnesia .....q. s.
Water .....oz. j
Let stand for some hours; filter.
3.—Mix 1 and 2 and add—
Simple syrup.....oz. iij
Carmin or cochineal solution gtt. v

Dose one or two drachms, as directed.

Saccharin in small quantity helps to disguise the larger dose of quinine.

Small doses of Fowler's solution may be added, if indicated, or sodium bromide for children made irritable by quinine.

Druggists will make this in quantity and keep it in stock if requested. It is simple, easily made, and inexpensive. Moreover, children like it.

—New York Med. Jour., Oct. 28, 1899.

OVERFEEDING IN INFANTS.

An editorial in *The American Medical Compend* discusses the evils of overfeeding in infants and young children. This is a well-known fact, but one which is not emphasized sufficiently in text books. By overfeeding we mean too frequent feeding rather than too large a quantity at one time. Of course both errors are detrimental to a child's health, but the former more so, because the stomach can and generally does get rid of the superabundance by vomiting.

Every muscle in the body needs rest, and why not the stomach? While there is food in the stomach it works, and as it takes an appreciable time (from two to four hours, according to age) before the food is passed into the intestines, it behooves us to allow the stomach a sufficient time to recuperate. If the muscle has no rest it soon becomes weakened, retention

results, and this leads to fermentation, dilatation, inactivity of the glands and intestinal derangements. The moral is self-evident.

BACON AS AN INFANT FOOD.

The lack of fat in an infant's diet, or improper digestion when present, is one of the most frequent causes of constipation. Continuation of this without change is almost certain to be speedily followed by the development of rachitical signs. The great difficulty of administering cod liver oil in some of these cases has led Dr. J. L. Morris to give the child small pieces of well-macerated, crisply fried bacon once or twice daily. He has found that it is a perfect substitute, and has yet to meet with a case which does not take kindly to it at once.

WHOOPING COUGH SPECIFICS

Three new additions to the already overcrowded list of drugs, which are absolutely (?) specific in whooping cough:

Chloretone, a coal tar preparation, said to be anti-spasmodic and not to affect the heart. We have tried it with no marked benefit in many cases, and in one child it was followed by quite marked symptoms of depression.

Diphtheria Antitoxin, said to be prompt and decisive in action. In an epidemic of diphtheria we had several cases of pertussis. Antitoxin was injected in every case with the usual good effect on the diphtheritic process, but the cough remained as severe as ever.

Antitussin, a preparation containing fluorine and exhibited in ointment form. It is similar to the old method of prescribing belladonna ointment. Helm (Berliner Klin. Wochensch) claims to have obtained very good results from its use in sixteen very severe cases, all under one and a half years of age. It is supposed to have a marked anti-convulsive action, as well as to loosen the secretions. As soon as we can get this remedy we shall try it, and hope to be able to confirm his claims.

LEUCOCYTOSIS AS AN AID TO DIAGNOSIS.

G. D. Head considers the estimation of the white blood cells as a very valuable and reliable aid in diagnosis, and from the cases which he cites we are inclined to agree with him.

In children we have normally a leucocytosis, diminishing as the child grows older, while from six years on the white corpuscles are the same as in adults, viz., 7,500 per c. m. m.

The number of leucocytes is increased in pneumonia, rheumatism and purulent conditions. There is also a physiological increase during digestion, after cold baths and exercise. We get a decrease in tuberculosis, typhoid fever and la grippe. By means of the blood count the physician is able to follow the character of the inflammation from day to day, and thus decide whether it is spreading or retrogressing. *e. g.*, in a case of appendicitis the count was successively 19, 22, 19 and 14,000, all without marked change of symptoms. Operation was deferred on account of the diminishing leucocytosis, and the patient recovered. In another case either typhoid or appendicitis was suspected, with the chances in favor of appendicitis. The blood count showed 3,000 to the c. m. m., deciding in favor of typhoid. Operation showed a slightly inflamed appendix, and the child developed a typical typhoid fever.

In acute intestinal obstruction the blood count is normal. In one of Head's cases this diagnosis was made, and there was a marked leucocytosis. The diagnosis was changed to appencitis and confirmed by operation.

In children the early diagnosis of pneumonia is sometimes very difficult. A leucocytosis with high fever is always suggestive of pneumonia.

In another case the diagnosis lay between osteomyelitis and typhoid and the case was decided by the blood count. We have selected only a few of the most important cases collected by Dr. Head.

There is still much to be learned on this subject, but at present its outlook appears rather bright.

L. F. HAAS, M. D.
New York City, 773 Forest avenue.

PUBLISHER'S MISCELLANY.

PNEUMO-MECHANICS THERAPEUTICS COMBINED WITH ELECTRICITY.

THE SYSTEM OF EDWARD C. FRASER M. D., M. E.

Pneumo-Therapeutics is the introduction of solutions, medicinal or otherwise, into the tissues of the body after a pneumatic apparatus is removed from the surface of the skin. Absorption in some cases may be facilitated by the action of electrical currents, pneumo-mechanics (or vacuum method). The mechanical effects of this treatment will restore the circulation of the blood, and nervo-vital fluids in a remarkable manner, even in desperate chronic cases, producing a proper dilation of the blood vessels; the opening up of collapsed arteries and veins, causing a marked increase of all vital properties, in the tissues and organs through the circulatory system, increasing nutrition of parts and facilitating absorption.

Pneumo-therapeutics, pneumo-mechanics and electricity may be used at one treatment of a patient, and the combining of these methods in a successful manner I have styled a new system of treatment, as I know of no one using this system of treatment in the way I do, at one treatment of a patient other than myself.

This system of treatment is indicated in locomotor-ataxia, paralysis, apoplexy, rheumatism, lame back, shoulders and hips, stiff joints, cold extremities, numbness, low vitality, nervous prostration, insomnia, impotence, bronchitis, asthma, shrunken, atrophied or undeveloped parts of the body, defective circulation, congestion of lungs, liver, kidneys, diseases of the spine, brain and nerve centres, as well as many diseases of the skin, etc.

Physicians desiring more information about this system of treatment are invited to address Edward C. Fraser, M. D., M. E., 1409 Arch street, Philadelphia, Pa., care of THE TIMES AND REGISTER.

I have investigated the above treatment of Dr. Fraser's and find it practical and producing satisfactory results.

JOSEPH R. CLAUSEN, A. M., M. D.

Jos. WESLEY MALONE, M. D., Blythedale, Pa., says: "I am so well pleased with Celerina that I can not refrain from citing several cases of interest. I prescribed it very frequently, and have never had it to fail yet. I used it in a case of chorea. The patient was a little girl, ten years old, suffering from an acute attack. The case had been given up by two physicians and was a very bad one. The usual remedies, phosphorus, arsenic, etc., had been used and had no great effect. I advised the attending physician, an old practitioner, and a good one too, to try Celerina. He did not take much to the idea, but after urging him he consented, and the first dose gave relief. From that time the child got better, and in about four weeks was cured. It acted like a charm, and the old physician, who had never used it, was so well pleased, that I am sure he will try it again. I have prescribed it in nervous prostration, and have yet to find it to fail. It is pleas-

ant to take, and produces no nauseating effects, as other remedies do when used for some time. I frequently prescribe it with Aletris Cordial, and it also goes well with Peacock's Bromides. I shall continue to prescribe it, and shall watch its merits closely.

FLORIDA.

The direct route to Florida and all Southern resorts, including Aiken, Augusta, Summerville, Asheville and the "Land of the Sky" is via the Southern Railway.

The New York and Florida Limited leaves Broad Street Station, Philadelphia, daily except Sunday, at 3:14 p. m. This magnificent train is composed exclusively of dining, library, compartment, observation and drawing-room, sleeping cars between New York and St. Augustine, also carries Pullman drawing-room sleeping cars to Aiken, S. C., Augusta, Ga., and Tampa, Fla. Three other through trains leave Broad Street Station, Philadelphia, daily for Florida and points South via the Southern Railway. Dining car service on all through trains of the Southern Railway. Chas. L. Hopkins, District Passenger Agent, 828 Chestnut street, Philadelphia, will be pleased to furnish all information.

ASEPTIC AND ANTISEPTIC.

These terms are in such every-day use that it would seem that the province of each must be clearly defined and well understood. We therefore felt that we must be in error when a prominent physician challenged our use of the term antiseptic, as applied to our collapsible tube container for unguentine. We had thus described the office of this tube because, while not in itself a germicide, it does exclude all septic germs and thus prevents contamination of its contents.

This use of the term is justified by the formation of the word, the prefix "anti" in medicine denoting "preventive or counteractive." But we realized that technical terms often acquire a special significance not always indicated by their etymology, so we turned to the standard medical dictionaries. Here we found Foster defining antiseptic as "preventing or checking putrefaction or septic infection," Gould giving it a "remedy or agent that prevents a septic process." But it was contended that these definitions were not accepted by all medical men. We therefore submitted the question to the medical press and later to the profession. Replies received from a score of editors and since from several hundred physicians show an interesting difference of opinion.

There is practical agreement as to the meaning of Aseptic and but few consider it synonymous with Antiseptic. As to the latter term, however, there is a pretty even division into two camps, which may be called antigermal and germicidal. We quote a terse definition of each.

Antigermal.

(a) Anything excluding sepsis is antiseptic.

"Antisepsis is sometimes used simply as meaning the destruction or counteraction of sepsis as opposed to 'asepsis' in its proper sense. It really means more—it means protection of aseptic substances from sepsis, as well as its destruction, and in this sense its application to a germ-proof container is correct."

Journal American Medical Association, January 13, 1900, page 125.

(b) Chemical preventives only are antiseptic.

"Only articles which chemically prevent putrefaction or sepsis may be

properly termed antiseptic; any non-porous hard substance which prevents absorption and diffusion of septic matter is properly termed aseptic."

Germicidal.

(a) Destruction of germs generally.

"An antiseptic substance is one which is actively destructive to septic germs. For example, heat, electricity and chemical germicides.

Medical Council, February, 1900.

(b) Destruction of germs only after infection has occurred. "Antisepsis implies a septic condition against which one directs chemical or other agents capable of correcting it. Asepsis has to do with those measures calculated to preserve a non-septic condition and may be accomplished by chemical or physical means."

—Western Clinical Recorder, Nov. 1899, p. 399.

According to this last interpretation, carbolic acid would be an antiseptic only when applied to an infected body or substance; if applied to a non-septic body it would be aseptic. This is in direct contradiction to tho opinion of the Journal American Medical Association above quoted.

It would seem that an elucidation of the following points might be of interest and profit to the profession generally.

(1) Is the destruction of germs *before* they have infected a body or substance antisepsis?

(2) Is antisepsis necessarily and always the destruction of germs?

(3) If not, and their exclusion is held to be antisepsis, may a non-chemical agent accomplish it?

Writing on the necessity of some such discussions, the editor of a Western medical journal says:

"There are no two words in the language more villainously abused than the two now in controversy. To attend the average medical society meeting of the day and hear the use made of these words would make one wish that they could be wiped out of the language and new words with exact and universally applied meaning substituted. That, of course, is out of the question, and the next best thing is to insist upon the proper distinction between the two being made."

We are not doing any insisting, but wish to know "where we're at."

NAPOLEON ON DRUNKENNESS.

Napoleon Bonaparte will appear in the March *Century* in a new role—that of a temperance advocate. In the second instalment of Dr. O'Meara's hitherto unpublished "Talks with Napoleon" at St. Helena, it is recorded that, having a pain in his side, the ex-Emperor asked his physician to show him where his liver was situated; and the latter, in some remarks on the causes of inflammation of that organ, mentioned intoxication as one of them. Thereupon Napoleon remarked:

"Then I ought not to have it, as I never was drunk but once in my life, and that was 24 years ago, at Nice . . . . I drank three bottles of Burgundy, and was completely drunk. O, how sick I was the next day! I wonder how a man who once gets drunk can ever think of doing it again. Such headache, vomiting, and general sickness; I was nearly dead for two days."

VINEGAR TO SOBER-UP THE DRUNKEN MAN.

It is said that the administration of a wineglassful of vinegar, well diluted, will sober-up a drunken man in twenty minutes.—*Virginia Medical Semi-Monthly.*